

## ABSTRACT

Visible artifacts in images created using image processing based on motion vector maps may be reduced by providing one or more mechanisms for correcting the vector map. In general, the set of motion vectors is changed by selecting one or more portions of the image. The vectors corresponding to the selected one or more portions are modified. Various image processing operations, such as motion compensated interpolation, may be performed using the changed set of motion vectors. Various mechanisms for obtaining a changed set of motion vectors may be used separately or combination by a user. A region in an image may be defined. The region may be segmented into foreground and background regions. A tracker then may be used to track either the foreground region or the background region or both. A single motion vector or a parameterized motion model obtained from the tracker may be assigned to the tracked region. A combination map may be defined to control which pixels of the input images are used to contribute to each pixel of an output image based on how a motion vector transforms a pixel from the input image to the output image. The combination map is used with a specified region to which one or more motion vectors are assigned. Such combination maps may be used in combination with the tracker described above. A color image may be generated using the motion vectors. The color image then may be modified using conventional color modification tools. The modified color image then may be converted back to motion vectors. A user-specified transform between the two images may be used to define a set of vectors that correspond in time and resolution to the motion vectors estimated between the two images. The set of vectors may be combined with the estimated motion vectors to produce a set of vectors used for image processing operations.